

List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 – 14 (Cancelled).

15. (New) A pressure sensor for measuring a pressure of a medium, comprising:

A pressure measuring cell having an end face loadable with the medium;

a housing having a media opening and a ring-shaped, axial bearing surface surrounding the media opening;

a clamping apparatus; and

a ring-shaped sealing arrangement; wherein

said pressure measuring cell is positioned in said housing and said sealing arrangement is positioned between said bearing surface and said end face, said sealing arrangement, as well as said pressure measuring cell are axially clamped between said bearing surface and said clamping apparatus; and

said sealing arrangement includes a decoupling ring as well as a first, and a second, ring-shaped sealing element, said first sealing element lies against said end face, said second sealing element lies against said bearing surface, and said decoupling ring is axially clamped between said first sealing element and said second sealing element.

16. (New) The pressure sensor as claimed in claim 15, wherein:

said pressure measuring cell has a platform, and a measuring membrane, of a first material, said decoupling ring is made of a second material; and the mechanical and/or thermal properties of said first material equal those of said second material.

17. (New) The pressure sensor as claimed in claim 16, wherein:
said first material and said second material are equal.
18. (New) The pressure sensor as claimed in claim 16, wherein:
said first material comprises a ceramic, especially corundum, or a crystalline material.
19. (New) The pressure sensor as claimed in claim 16, wherein:
said first and/or said second sealing element comprise(s) an inert material, especially PTFE.
20. (New) The pressure sensor as claimed in claim 15, wherein:
said decoupling ring is bounded in the axial direction by two planparallel end faces.
21. (New) The pressure sensor as claimed in claim 20, wherein:
said end faces have ring-shaped projections and/or cavities.
22. (New) The pressure sensor as claimed in claim 15, wherein:
said clamping apparatus and/or said housing includes an axially elastic element.
23. (New) The pressure sensor as claimed in claim 27, wherein:
the axial clamping pressure on said first and second sealing elements fluctuates over temperature cycles between -40°C and 150°C by not more than 40%, preferably by not more than 20% and especially preferably by not more than 10% of the maximum occurring clamping pressure.
24. (New) The pressure sensor as claimed in claim 22, wherein:

the axial clamping pressure on said first and second sealing elements does not, over temperature cycles between -40°C and 150°C, sink below 0.8 MPa, preferably not below 0.9 MPa and especially preferably not below 1 MPa.

25. (New) The pressure sensor as claimed in claim 22, wherein:

said axially elastic element comprises a Belleville spring having the axial bearing surface.

26. (New) The pressure sensor as claimed in claim 22, wherein:

said axially elastic element is embodied as an axially flexible, corrugated tube membrane surrounding the media opening;

said corrugated tube membrane has at a first axial end the axial bearing surface; and

said corrugated tube membrane is connected pressure-tightly with said housing at a process connection and at a second end.

27. (New) The pressure sensor as claimed in claim 15, further comprising:

a compensation ring, which is axially clamped together with the pressure measuring cell, wherein:

said compensation ring has a greater coefficient of thermal expansion than the material of said housing, and said pressure measuring cell has a smaller coefficient of thermal expansion than the material of said housing.

28. (New) The pressure sensor as claimed in claim 27, wherein:

said compensation ring comprises zinc, magnesium or aluminum.